Grade Four

These guidelines have been designed to assist teachers to focus on what a typical child should know and be able to do at various times in fourth grade. The fourth grade mathematics program presents concepts that are introduced, developed or mastered and should be covered using models, explanations, number lines and representations. All concepts in the curriculum are to be taught requiring the students to explain their answers through writing or showing pictures. Problem solving, communication and reasoning are expected to be incorporated throughout the curriculum.

First Trimester
EM-Units 1, 2, 3, 4

<u>Numbers and Operations</u>
• Whole numbers 0-999,999 *M (N&O) 4-1, 4-2*
• Place value of whole numbers 0-999,999 *M (N&O) 4-1*
• Write numbers using expanded notation and standard form *M (N&O) 4-1*
• Symbolic representation *M (N&O) 4-2*
• Addition and subtraction of whole numbers *M (N&O) 4-3*
• Multiplication and division facts 1-12 *M (N&O) 4-3*
• Order of operations *M (N&O) 4-4*
• Mental computation to solve problems *M (N&O) 4-6*
• Number properties (odd and even numbers and the multiplicative property of zero) *M (N&O) 4-8*
• Field properties (commutative for addition and multiplication; associative for addition and multiplication, identity for addition
  and multiplication) to solve problems *M (N&O) 4-8*
• Estimation to solve problems and determine reasonableness of a situation or answer using whole numbers *M (N&O) 4-7*
• Identify, order and compare decimals to tenths and hundredths *M (N&O) 4-1, 4-2*
• Read and write decimals to the hundredths *M (N&O) 4-1, 4-2*
• Addition and subtraction of decimals to hundredths *M (N&O) 4-4*

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First Trimester (cont.)
EM-Units 1, 2, 3, 4

Geometry and Measurement
• Use number of angles, number of sides, or length of sides, parallelism and perpendicularity to identify, describe, and
  distinguish among polygons and circles *M (G&M) 4-1*
• Similarity concepts *M (G&M) 4-5*
• Measurement for length using metric systems *M (G&M) 4-7*
• Copy, compare and draw models of 2-dimensional objects *M (G&M) 4-10*

Functions and Algebra
• Write a rule for patterns *M (F&A) 4-1*
• Identify and extend linear and nonlinear patterns to specific cases *M (F&A) 4-1*
• Use letters or symbols to represent unknown quantities in solving algebraic expressions *M (F&A) 4-3*
• Simplify numerical expressions *M (F&A) 4-4*
• Equivalency between two expressions *M (F&A) 4-4*

Data, Statistics and Probability

GLEs in italics

Grade Four
Second Trimester
EM-Units 5, 6, 7

Numbers and Operations
• Inverse relationship between multiplication and division *M (N&O) 4-3*
• Relationship of operations between repeated subtraction and division *M (N&O) 4-3*
• Estimation to solve problems and determine reasonableness of a situation or answer using whole numbers M (N&O) 4-7
• Multiply 2 or 3 digit numbers by 1 and 2 digit numbers *M (N&O) 4-3, 4-4*
• Divide up to a 3-digit numbers (including money) by 1-digit numbers *M (N&O) 4-3, 4-4*
• Divide with remainders and interpret remainders *M (N&O) 4-3, 4-4, 4-8*
• Fractional numbers for halves, thirds, fourths, fifths, sixths, eighths and tenths *M (N&O) 4-1*
• Identify, order and compare equivalent proper fractions *M (N&O) 4-1, 4-2*
• Add and subtract simple fractions with like denominators *M (N&O) 4-3, 4-4*
• Estimation to solve problems and determine reasonableness of a situation or answer using fractions
  M (N&O) 4-7

Geometry and Measurement
• Classify angles relative to 90 degrees *M (G&M) 4-1*
• Measurement for time and temperature using both standard and metric systems *M (G&M) 4-7*
• Interpret and give directions between locations on a map or coordinate grid *M (G&M) 4-9*
• Plot and identify ordered pairs *M (G&M) 4-9*
• Find horizontal and vertical distances on a coordinate grid in the first quadrant *M (G&M) 4-9*

Functions and Algebra
• Formulate and evaluate simple linear algebraic expressions *M (F&A) 4-3*
• One step linear equations *M (F&A) 4-4*

Data, Statistics and Probability
• Collect, construct, interpret, analyze, make predictions, and draw and justify conclusions for line plots, tables, bar graphs,
  pictographs, and circle (pie) graphs *M (DSP) 4-1, 4-3*
• Find median, mode or range for a given set of data *M (DSP) 4-2*
• Display data (and describe the best representation for the data) on line plots, tally charts, tables or bar graphs *M (DSP) 4-1, 4-3*

GLEs in italics

Grade Four
Third Trimester
EM-Units 8, 9, 10, 11, 12

Numbers and Operations
• Solve problems using multiple operations, factors and multiples *M (N&O) 4-4*
• Multiply decimals (money) by 1 or 2 digit numbers *M (N &O) 4-3, 4-4*
• Convert simple fractions to decimals and decimals to fractions *M (N&O) 4-3*
• Estimation to solve problems and determine reasonableness of a situation or answer using decimals
   M (N&O) 4-7

Geometry and Measurement
• Compose and decompose objects (2-and 3-dimensional objects) *M (G&M) 4-3, 4-4*
• Concepts of 3-dimensional shapes *M (G&M) 4-3*
• Demonstrate congruency using transformations [reflections (flips), translations (slides) and rotations (turns)] *M (G&M) 4-4*
• Perimeter and Area *M (G&M) 4-6*
• Measurement for capacity, mass and weight using both standard and metric systems *M (G&M) 4-7*
• Build models of rectangular prisms from 2-and 3-dimensional representations *M (G&M) 4-10*

Functions and Algebra
• Identify, describe and compare linear relationships that represent constant rates of change *M (F&A) 4-2*

Data, Statistics and Probability
• Counting techniques *M (DSP) 4-4*
• Probability concepts *M (DSP) 4-5*
• Display experimental probability data in bar, pie, line graphs, line plots and tables *M (DSP) 4-3, 4-5*
• Experimental design *M (DSP) 4-6*

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